REMARKS

Applicant requests reconsideration of the application in view of the discussion that follows. The status of the claims as of this response is as follows: Claims 20-22 and 24-35 are pending. Claims 1-19, 23 and 35 were canceled previously. No claims have been amended herein.

Rejection under 35 U.S.C. §112

Applicant acknowledges the withdrawal of the rejection of claim 35 under the second paragraph of the above code section.

Claims 20-22 and 24-34 were finally rejected in the present Office Action under the second paragraph of the above code section, as being indefinite for failing to particularly point out and distinctly claim the subject matter which applicant regards as the invention. In particular, the Office Action contends that claim 20 is indefinite in reciting the phrase, "each dispenser set depositing a drop set at a distance ahead of a drop set deposited by a preceding dispenser set...." The Office Action asserts that this limitation is confusing in view of what is being disclosed in the specification. Figure 4A of the specification, continues the Office Action, when describing the first pass of the head system comprising multiple successive sets of dispensers, discloses that dispenser set E, while moving in direction 204(a) (or to the left direction), dispenses from dispensers 4, 3, 2, 1, in that order. (Applicant believes that "right" direction was intended since the arrow 204a in the drawing in the Office Action is pointing to the right. However, although Applicant raised this issue in the prior response, the present Office Action still refers to the left direction. Clarification is respectfully requested.) Hence, for example, argues the Office Action, dispenser 3 deposits a drop set at position 3, which is not "ahead" of the drop set deposited by dispenser 4 (which is the preceding dispenser) but "behind" the drop set deposited by the preceding dispenser. Thus, concludes the Office Action, the claims are in contradiction to that which is disclosed in the instant specification and clarification is required.

Applicant respectfully traverses this ground of rejection. Claim 20 recites that a processor communicates with the head system and transport system to advance the head system in the first direction over the substrate while dispensing drop sets for each array, from dispenser sets in an order the reverse of that from which the dispenser sets pass over a given location on the substrate as the head system advances in the first direction, with each dispenser set depositing a drop set at a distance ahead of a drop

set deposited by a preceding dispenser set which is less than the distance to the successive drop dispenser set which deposits the next drop set, so as to form the arrays. The interpretation of the claim language in the Office Action overlooks the above limitations in the claim. The proposed scenario on page 3 of the Office Action does not meet this claim language.

The Office Action focuses on Fig. 4A of the instant specification, which depicts the alignment of the dispensers after having moved in a first direction (shown in Fig. 4B as direction arrow 63a) to place the dispensers in such alignment so that pass 1 of the dispensers may be carried out. Movement in pass 1 is not the claimed movement in a first direction. The movement in pass 1 follows movement of the dispensers in a first direction 63a as is clearly discussed at length in Applicant's specification. Direction 63a corresponds to the first direction recited in claim 20, and, more importantly, is referred to as, and is, the first direction in the specification.

The specification is clear in its description of the claimed subject matter. For example, the above language may be understood with reference to Figs. 4A-4G and the discussion in the specification at pages 10-13. As indicated in the specification, head system 210 comprises two heads 210a and 210b. Each head 210a and 210b is shown with five parallel rows (E-A) and two columns (1,2 for head 210a and 3,4 for 210b) of dispensers. Referring to Fig. 4A, after the head system is moved in a first direction, i.e., direction 63a, pass 1 of head system 210 is carried out wherein drop sets 1,2,3,4 are deposited from dispensers in row E, which correspond to a dispenser set (dispenser set E for purposes of discussion). Arrow 204a (shown in Fig. 4B) indicates the direction of movement of head system 210 for depositing each of drop sets of the row in question for pass 1.

Head system 210 is then advanced again in the first direction indicated by arrow 63a in Fig. 4B so that dispensers in row D (dispenser set D for purposes of discussion) and the dispensers of dispenser set E both dispense. The drop sets dispensed by dispenser set D dispense ahead of the row of drop sets dispensed by dispenser set E. Referring to Fig. 4B, the drop sets from dispenser set D are represented by circles with lines at about 45 degrees from horizontal. During this second pass (pass 2 of Fig. 4B), the same pattern of deposition is repeated but with drop sets being deposited from both dispenser sets D and E as shown. If the interpretation in the Office Action was followed, which does not account for movement of the head system in a first direction, the drops of liquid would continue to be deposited in pass 2 at the same spots as in pass 1.

As can be seen in Fig. 4B, the drop set deposited by dispenser set D is deposited at a distance ahead of a drop set deposited by a preceding dispenser set E as head system 210 is advanced in direction 63a. As also seen from Fig. 4B, each dispenser set deposits a drop set (drop set from dispenser set D) at a distance ahead of a drop set deposited by a preceding dispenser set (drop set from dispenser set E), which is less than the distance to the successive drop dispenser set which deposits the next drop set. That is, the distance between drop sets from dispenser set E and dispenser set D is less than the distance between dispenser set E and dispenser set D of head system 210 or between successive drop sets from dispenser set E. The interpretation of the claim language in the Office Action fails to account for this limitation in the claim language.

Figs. 4C-4G depict the above scheme as head system 210 is advanced in a first direction for each of dispenser sets E-A until the array is completed.

The Office Action responded to the above arguments by first pointing out that the claims do not recite that the head system comprises two heads but recites "a head system with multiple dispensers." Applicant respectfully points out that "a head system with multiple dispensers" would read on a head system with two heads. Furthermore, Applicant was merely repeating exemplary language from the specification that clarifies and supports the language of claim 20 and demonstrates that the claim language is not in contradiction with what is disclosed in the specification, as alleged in the Office Action. The important issue is that the claims are not indefinite and do particularly point out and distinctly claim the subject matter which applicant regards as the invention. The disclosure in the specification referred to above supports Applicant's position.

The Office Action contends that Applicant's arguments are not commensurate with the way the claims are being recited. However, as explained above, the interpretation proposed in the Office Action does not take into consideration the totality of the claim language. For example, the proposed interpretation does not account for the language of the claim which recites that <u>each dispenser set deposits a drop set at a distance ahead of a drop set deposited by a preceding dispenser set which is less than the distance to the successive drop dispenser set which deposits the next drop set</u>. Furthermore, the proposed interpretation does not account for movement of the head system in a first direction prior to the dispensing of drops in pass 1 through pass 7 of Figs. 4A-4G. As mentioned above, if the proposed interpretation is carried through to its

logical conclusion, the head system in the proposed interpretation would continue to deposit drops of liquid to the same spots in a single row.

The Office Action concludes that, since all of Applicant's arguments are based on an "interpretation to which the claims do not recite," Applicant's arguments were not found persuasive. Applicant submits that the position taken in the Office Action is based on an interpretation that is, at best, inconsistent with what is specifically taught in the present specification. This is evident in view of the above discussion.

Rejection under 35 U.S.C. §102

Applicant acknowledges the withdrawal of the rejection of claims 20-22, 24-28 and 35 under paragraph (b) of the above code section as being anticipated by Takahashi, *et al.* (U.S. Patent No. 5,624,484) (Takahashi).

Claims 20-22 and 24-34 were finally rejected under 35 U.S.C. 102(a) and (e) as being anticipated by Blanchard (U.S. Patent No. 6,028,189). Applicant acknowledges the withdrawal of the rejection of claim 35 over Blanchard under the above code section.

Without acquiescing in the arguments advanced in the Office Action, Applicant submits that Blanchard does not disclose or suggest an apparatus wherein a processor communicates with the head system and transport system to advance the head system in the first direction over the substrate while dispensing drop sets for each array, from dispenser sets in an order the reverse of that from which the dispenser sets pass over a given location on the substrate as the head system advances in the first direction, with each dispenser set depositing a drop set at a distance ahead of a drop set deposited by a preceding dispenser set which is less than the distance to the successive drop dispenser set which deposits the next drop set, so as to form the arrays. There is no disclosure or suggestion in Blanchard of a processor that performs the above function.

As can be seen particularly from Fig. 4G (and as discussed in the specification at page 13, lines 4-14), the distance between adjacent feature rows within any of the arrays is less than the distance between adjacent dispenser sets (that is, the rows of dispensed drops are "compressed" relative to the respective dispenser rows). Similarly, columns 1-4 of deposited droplets are spaced closer together than the columns 1-4 of respective dispensers (that is, the dispensed drop columns are "compressed" relative to the respective dispensers). This decrease in deposited drop spacing in any direction of travel of the head system, is readily obtained, for example, using processor 140 correctly timing dispenser actuation as head system 210 moves over the substrate. The

specification indicates that such compression provides an advantage of allowing for arrays with deposited drop spacing, as measured in any direction of head travel relative to the substrate, to be independent of the spacing of the respective dispensers that deposited them.

Blanchard does not disclose or suggest such an approach either explicitly or inherently. The processor of Blanchard appears to operate his printing head in a manner similar to that known or conventional in the art.

The Office Action contends that Applicant's argument above with regard to the spacing of the respective drops sets is unsubstantiated. However, the Office Action has not pointed to any language in Blanchard that discloses the spacing as claimed. The burden of proof is on the Office to show that a reference discloses what is being claimed. The Office Action dismisses this burden by contending that the claims are drawn to a product, and Applicant has not provided any evidence to the contrary that the apparatus of Blanchard cannot produce the effect that the claimed apparatus is capable of achieving. First, the spacing of respective drop sets is the function of the processor, which is a part of the presently claimed apparatus. The processor is, therefore, programmed to carry out the function as claimed. There is no disclosure of a processor in Blanchard that carries out the claimed function and the Office Action has not identified such a processor. The only way that one skilled in the art would be inclined to use the computer of Blanchard programmed to perform the function of each dispenser set depositing a drop set at a distance ahead of a drop set deposited by a preceding dispenser set which is less than the distance to the successive drop dispenser set which deposits the next drop set, so as to form the arrays is to use Applicant's own disclosure. The skilled artisan would not be able to find such a disclosure in Blanchard because Blanchard makes no such disclosure.

The Office Action recognizes that a computer or processor that performs particular functions is part of an apparatus. The paragraph bridging pages 5 and 6 of the Office Action states that, with regard to a processor communicating with the head system and the transport system to advance the head system in the first direction over the substrate while dispensing drop sets form dispenser sets, such would be inherently disclosed as the inkjet printers are operated by a software and its processor that communicates with the head system and transport system for printing purposes, which would necessarily require a processor comprising a software that moves the head

system and transport system. Accordingly, the Office Action recognizes that the processor performing functions is a part of an apparatus.

The fact of the matter is that the Office Action was able to "interpret" the language of the reference so as to contend that the reference discloses the limitation of the present claims that each dispenser set deposits a drop set at a distance ahead of a drop set deposited by a preceding dispenser set. While Applicant does not agree with this interpretation, Applicant has pointed out that there is no disclosure in Blanchard of a processor that also performs the function of each dispenser set depositing a drop set at a distance ahead of a drop set deposited by a preceding dispenser set which is less than the distance to the successive drop dispenser set which deposits the next drop set, so as to form the arrays. To avoid this deficiency, the Office Action contends that the claims are drawn to a product. The Office Action appears to be implying that the function performed by the processor with respect to this limitation of the claims is somehow not a function of the processor. The claim recites a processor communicating with the head system and transport system to carry out the functions as set forth in the claims.

Blanchard does not disclose or suggest the processor of the present apparatus either explicitly or inherently. The processor of Blanchard operates his printing head in a manner similar to that known or conventional in the art. Blanchard discloses no more than this.

Conclusion

Claims 20-22 and 24-34 satisfy the requirements of 35 U.S.C. §§112 and 102. Allowance of the above-identified patent application, it is submitted, is in order.

Respectfully submitted,

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